Amendments to the Specification

Please replace the paragraph added between the title and the first line of text in the Preliminary Amendment filed August 27, 2003, with the following rewritten paragraph:

This is a Divisional of Application No. 09/524,565 filed March 13, 2000, now U.S. Patent No. 6,678,944 issued January 20, 2004. The entire disclosure of the prior application is hereby incorporated by reference herein in its entirety.

Please replace the paragraph beginning on page 3, line 18, with the following rewritten paragraph:

Moreover, there is an EC mounting system of a type which includes a rotatable body and a plurality of suction nozzles supported by the rotatable body, and which does not ~~mvoe~~ move the rotatable body but moves a printed-wiring board to mount ECs held by the suction nozzles on the board. In this EC mounting system, if a plurality of engaging members are employed and provided on the rotatable body, for moving the corresponding suction nozzles toward the printed-wiring board supported by a board supporting device, the rotatable body is subjected to an increased moment of inertia. Thus, it is difficult to start and/or stop the rotatable body so quickly, which leads to limiting the improvement of EC mounting efficiency.

Please replace the paragraph beginning on page 23, line 6, with the following rewritten paragraph:

(10) According to a tenth feature of the present invention that includes the ninth feature (9), each of the switch valve devices comprises a plurality of switch valves each of which includes the at least one engageable portion, and wherein the valve-engaging portion of the engaging member is selectively engageable, owing to a relative rotation of the engaging member and the rotatable body, with each of the respective engageable portions of the switch valves of the each switch valve device. When ECs are sucked and held by the suction nozzles,

the engaging member is rotated to a rotation phase which corresponds to one suction nozzle to be moved thereby toward an EC and simultaneously corresponds to the engageable portion of one of the plurality of switch valves of one switch valve device corresponding to the one suction nozzle, and moves the one suction nozzle toward the EC while switching the one switch valve. When ECs are mounted on the printed-wiring board ("PWB"), the engaging member is rotated to a rotation phase which corresponds to one suction nozzle to be moved thereby toward the PWB and simultaneously corresponds to the engageable portion of one of the plurality of switch valves of one switch valve device corresponding to the one suction nozzle, and moves the one suction nozzle toward the PWB while switching the one switch valve. Thus, the engaging member is rotated, for each of the suction nozzles, to each of a plurality of rotation phases at each of which the engaging member is engageable with the engageable portion of a corresponding one of the plurality of switch valves of one switch valve device corresponding to the each suction nozzle, and moves the each suction nozzle toward the EC or the PWB. That is, the single engaging member can switch the plurality of switch valve devices. The tenth feature (10) may be employed independent of any of the fourth to eighth features (4) to (8). That is, the tenth ~~feature (1)~~ feature (10) may be generally or widely employed in a switch valve which is switchable by engagement thereof with an engaging member and which controls the supplying of negative and/or positive pressure to a suction nozzle.

Please replace the paragraph beginning on page 32, line 15, with the following rewritten paragraph:

(16) According to a sixteenth feature of the present invention that includes any one of the tenth to fifteenth ~~features (9)~~ features (10) to (15), the switch valves of the each switch valve device comprises a first switch valve and a second switch valve each of which comprises a spool valve including a spool, and wherein the rotatable body has a negative-

pressure passage through which a negative pressure is supplied to one of the suction nozzles that corresponds to the each switch valve device and which communicates with the first and second switch valves in series, and a positive-pressure passage through which a positive pressure is supplied to the one suction nozzle and which communicates with the second switch valve, and wherein in a state in which the first and second switch valves are positioned at respective upper positions thereof, the negative-pressure passage is closed by the first switch valve and is opened by the second switch valve, and the positive-pressure passage is closed by the second switch valve, and, when the spool of the first switch valve is moved to a lower position thereof from the state, the negative-pressure passage is completely opened, and when the spool of the second switch valve is additionally moved to a lower position thereof, the negative-pressure passage is closed and the positive-pressure passage is opened. In the state in which the first and second switch valves are positioned at their upper positions, one suction nozzle is not supplied with the negative pressure passage or the positive pressure, and cannot suck or hold an EC. When the first spool of the first switch valve is moved to its lower position, the one suction nozzle is supplied with the negative pressure, and sucks and holds an EC. In this state, when the second spool of the second switch valve is moved to its lower position, the one suction nozzle is disconnected from the negative pressure and is supplied with the positive pressure, so that the one suction nozzle positively releases the EC. Since the positive-pressure passage is opened and closed by the second spool of the second switch valve, it is not essentially required that the positive-pressure passage is communicated with the first switch valve. However, the positive-pressure passage may be communicated with the first switch valve, because the shape of the first spool and/or the position of the positive-pressure passage can be so determined that the positive-pressure passage cannot completely be closed by the first spool. For example, in the case where an axis line of the positive-pressure passage perpendicularly intersects an axis line of the first spool, the first spool may

include a small-diameter portion which is located in the positive-pressure passage, so that the first spool cannot completely close the positive-pressure passage. Alternatively, the positive-pressure passage may be partly interfered with by the first spool, according to the seventeenth feature (17) described below. In the latter case, the fourteenth feature (14) can be easily employed. The sixteenth feature (16) may be employed independent of any of the fourth to ninth features (4) to (9), i.e., may be generally or widely employed in a switch valve which is switchable by engagement thereof with an engaging member and which controls the supplying of negative and/or positive pressure to a suction nozzle.

Please replace the paragraph beginning on page 48, line 11, with the following rewritten paragraph:

The rotatable body 90 supports a plurality of (in the present embodiment, sixteen) suction nozzles 110 at a plurality of (sixteen) positions away from the rotation-axis line of the rotatable body 90 (in the present embodiment, a plurality of positions on a circle whose center is located on the axis line of the rotatable body 90), respectively, such that each of the suction nozzles 110 is movable relative to the body 90 in an axial direction of the body 90, i.e., a direction parallel to the axis line of the body 90, but is not rotatable relative to the body 90. When the rotatable body 90 is rotated, each of the suction nozzles 110 is revolved about the axis line of the body 90, so as to be moved to an arbitrary rotation position about the axis line of the body 90. Each of the suction nozzles 110 which are supported by the rotatable body 90 such that the nozzles 110 are not rotatable relative to the body 90, takes, at different rotation positions about the axis line of the body 90, different rotation phases about an axis line of the each suction ~~nozzle 100,~~ nozzle 110, respectively. The sixteen suction nozzles 110 are supported by the rotatable body 90 such that the suction nozzles 110 are angularly (in the present embodiment, equiangularly) spaced from one another. In the present embodiment, the sixteen suction nozzles 110 are of a same sort, and accordingly one of them will be described

below as a representative thereof. However, at least two suction nozzles of the plurality of suction nozzles 110 may be of different sorts which are for holding, by suction, different sorts of ECs 44 having, e.g., different shapes and/or dimensions.

Please replace the paragraph beginning on page 50, line 12, with the following rewritten paragraph:

A compression coil spring 126 as a sort of spring member as an elastic member as a sort of biasing device is provided in the hole 118. The spring 126 biases the first member 112 in an upward direction. Thus, in a state in which the first member 112 is opposed to the PWB 20 or the feeder 30, the spring 126 biases the first member 112 in a direction away from the PWB 20 or the feeder 30. A limit of movement of the first member 112 by the biasing action of the spring 126 is defined by engagement of respective one ends of the elongate holes 122 with the pin 124. A position where the suction nozzle 110 is moved upward by the biasing action of the spring 126 and the respective one ends of the elongate holes 122 of the first member 112 butt on the pin 124, is an upper-dead position as a movement-end position of the suction nozzle 110 in the direction away from the PWB 20 or the feeder 30. Thus, the pin 124 as an engaging portion which is provided on the rotatable body 90, and the elongate holes 122 as engaging portions which are provided on the first ~~member 122~~ member 112 cooperate with each other to provide a relative-rotation preventing device which prevents the first member 112 from being rotated relative to the rotatable body 90, while permitting the first member 112 to be moved relative to the body 90 in the axial direction thereof, and provide a movement-limit defining device which defines the limit of movement of the first member 112 by the biasing action of the spring 126, or an upper-dead-position defining device which defines the upper-dead position of the suction nozzle 110.

Please replace the paragraph beginning on page 55, line 3, with the following rewritten paragraph:

As shown in Fig. 8, the switch valve device 152 includes a first open/close valve 170, a second open/close valve 172, and a direction-switch valve 174. The first open/close valve 170 and the direction-switch valve 174 are spool valves and include spools 176, 178, respectively. The rotatable body 90 has a plurality of (in the present embodiment, sixteen) first spool holes 180 along a circle whose center is located on the axis line of the body 90 and which is smaller than the circle along which the suction nozzles 110 are provided. The first spool holes 180 are formed through the rotatable body 90 in a direction parallel to the axis line of the body 90. In addition, the rotatable body 90 has a plurality of (in the present embodiment, sixteen) second spool holes 182 along a circle whose center is located on the axis line of the body 90 and which is smaller than the circle along which the suction nozzles 110 are provided and is greater than the circle along which the first spool holes 180 are provided. The second spool holes 182 are formed through the rotatable body 90 in a direction parallel to the axis line of the body 90. Each of the sixteen first spool holes 180 and a corresponding one of the sixteen second spool holes 182 have a same position in a circumferential direction of the rotatable body 90. The first spool 176 is axially slideably fitted in the first spool hole 180, and ~~the the~~ the second spool 178 is axially slideably fitted in the second spool hole 182. Thus, as shown in Fig. 7, the first ~~spools 180~~ spools 176 and the second ~~spools 182~~ spools 178 are provided along the two circles whose centers are located on the axis line of the rotatable body 90 and which have different radii, such that each of the first ~~spools 180~~ spools 176 and a corresponding one of the second ~~spools 182~~ spools 178 have a same position in the circumferential direction of the body 90 and are aligned with each other in a radial direction, and such that each of the first and second ~~spools 180, 182~~ spools 176, 178 is vertically movable. In Fig. 7, the air-passage forming member 150 is not shown for easier understanding purposes only.

Please replace the paragraph beginning on page 62, line 17, with the following rewritten paragraph:

As shown in Fig. 5, a lower end portion of the air-passage forming member 150 projects downward from the rotatable body 90, and is provided with a returning device 250 which returns the first open/close valve 170 and the direction-switch valve 174 to their initial positions where the two valves 170, 174 are positioned at their upper-dead positions and accordingly the suction nozzle 110 is disconnected from both the negative-pressure and positive-pressure sources. A circular plate 252 is fixed to the lower end portion of the air-passage forming member 150, and a drive member 254 as a returning member that has a circular cross section is air-tightly fitted on the circular plate 252, such that the drive member 254 is movable relative to the plate 252 in an axial direction thereof, so that an air chamber 256 is provided between the circular plate 252 and the drive member 254. The air chamber 256 is communicated with the axial passage 156 formed in the air-passage forming member 150. Therefore, when the air chamber 256 is supplied with air, the drive member 254 is move upward, i.e., moved relative to the forming member 150 in a direction toward the rotatable body 90, so that the drive member 254 simultaneously engages the respective head portions 186, 188 of the first and second spools 176, 178 being positioned at their lower-dead positions and at the same time causes the spools 176, 178 to move to their upper-dead positions, thereby returning the first open/close valve 170 and the direction-switch valve 174 to their initial positions. When the solenoid valve 164 is ~~switch~~ switched and accordingly the air chamber 256 is communicated with the negative-pressure source, the drive member 254 is attracted toward the circular plate 252 and is returned to its lower-dead position as its inoperative position. At the lower-dead position of the drive member 254, the drive member 254 is opposed to, and spaced a small distance from, the respective head portions 186, 188 of the spools 176, 178 being positioned at their lower-dead positions.

Please replace the paragraph beginning on page 65, line 17, with the following rewritten paragraph:

An engaging arm 282 as an engaging member is fitted on an upper end portion of the rotatable shaft 268 that projects upward from the sleeve 270, such that the engaging arm 282 is rotatable relative to the shaft 268 and is not movable relative to the ~~same~~ shaft 268 in an axial direction of the ~~same~~ shaft 268. As shown in Fig. 6, the Y-axis slide 60 supports a screw shaft 284 such that the screw shaft 284 is rotatable about a vertical axis line parallel to the axis line of the rotatable body 90 and is not movable in an axial direction thereof. A nut 286 is threadedly engaged with the screw shaft 284. An end portion of the engaging arm 282 that projects from the rotatable ~~shaft 282~~ shaft 268 is fixed to the nut 286, so that the rotation of the nut 286 is prevented and the shaft 268 is supported by the Y-axis slide 60 via the engaging arm 282, the nut 286, and the screw ~~shaft 268~~ shaft 284 such that the shaft 268 is movable relative to the slide 60 in a direction parallel to the axis line of the rotatable body 90 and is rotatable relative to the slide 60 about the same axis line. The screw shaft 284 is rotated by rotation of a butting-member moving motor 294 that is transmitted to the shaft 284 via a driven pulley 288 as a timing pulley, a drive pulley 290, and a timing belt 292, so that the nut 286 or the engaging arm 282 is moved up and down parallel to the axis line of the rotatable body 90 and the rotatable shaft 268 and the butting member 272 are moved relative to the body 90, up and down parallel to the axis line of the body 90. In the present embodiment, the rotatable shaft 268, the screw shaft 284, the nut 286, the driven pulley 288, the drive pulley 290, the timing belt 292, and the butting-member moving motor 294 cooperate with one another to provide a butting-member moving device 296 as an engaging-member moving device.

Please replace the paragraph beginning on page 69, line 16, with the following rewritten paragraph:

An intermediate portion of the projecting portion 306 that is other than the nozzle-butting portion 308 thereof, includes a downward projection projecting downward from both the butting portion 308 and a base portion of the projecting portion 306 that is fitted on the rotatable shaft 268. The downward projection includes, at respective locations thereof corresponding to the first and second spools 176, 178 in a radial direction of the shaft 268, a first and a second valve-butting portion 310, 312 each as a valve-engaging portion. As shown in Fig. 7, the projecting portion 306 has a ~~cutout 308~~ cutout 314 which opens in one of opposite side surfaces of the portion 306 that are opposite to each other in the direction of rotation of the butting member 272, and which is formed through the thickness of the portion 306 in a direction parallel to the axis line of the body 90. A portion of the projecting portion 306 that defines the cutout 314 provides the second valve-butting portion 312. A portion of the first valve-butting portion 310 that butts on the first spool 176, and the second valve-butting portion 312 have different positions in the circumferential direction of the rotatable body 90. Therefore, when the butting member 272 is rotated relative to the rotatable body 90, the first or second valve-butting portion 310 or 312 can engage the butting portion 194 or 196 of the first or second spool 176 or 178, respectively. That is, when the butting member 272 is rotated and accordingly the projecting portion 306 is revolved about the axis line of the rotatable body 90, the projecting portion 306 is selectively positioned relative to each suction nozzle 110 which is about to suck or mount the EC 44, at a first relative rotation position, indicated in solid line in Fig. 7, where the first valve-butting portion 310 is opposed to the first spool 176 of the switch valve device 152 associated with the each nozzle 110, and at a second relative rotation position, indicated in two-dot chain line, where the second valve-butting portion 312 is opposed to the second spool 178 of the same device 152.

Please replace the paragraph beginning on page 76, line 21, with the following rewritten paragraph:

When the ECs 44 are mounted on the PWB 20, first, the main moving ~~device 62~~ device 82 moves the Y-axis slide 60, to move the sixteen suction nozzles 110 to the EC supplying device 26 (or 28). Then, as the rotatable body 90 is rotated, the sixteen suction nozzles 110 are sequentially moved to an EC-suck position where each nozzle 110 sucks and holds an EC 44. The EC-suck position is the position on a locus of revolution of each nozzle 110 that is the nearest to the EC-supply feeders 30 of the EC supplying device 26 (or 28). Before sucking the ECs 44, all the sixteen suction nozzles 110 are positioned at their upper-dead positions, the respective first and second spools 176, 178 of the sixteen switch valve devices 152 are positioned at their upper-dead positions, and the drive member 254 of the returning device 250 is positioned at its lower-dead position.

Please replace the paragraph beginning on page 77, line 9, with the following rewritten paragraph:

When the ECs 44 are sucked, the projecting portion 306 of the butting member 272 is revolved to a rotation position corresponding to one suction nozzle 110 being positioned at the EC-suck position, and a rotation phase corresponding to the first relative rotation position indicated in solid line in Fig. 7, the nozzle-butting portion 308 is positioned slightly above the one nozzle 110, and the first valve-butting ~~portion 308~~ portion 310 is positioned above the first valve spool 176. The second valve-butting portion 312 is not aligned with the second spool 178, and the recess 314 is positioned above the same 178.

Please replace the paragraph beginning on page 84, line 20, with the following rewritten paragraph:

While the rotatable body 90 is rotated to revolve the suction nozzles 110, the butting member 272 is rotated by the butting-member rotating device 280, so that the projecting portion 306 of the butting member 272 is revolved to a rotation position corresponding to one suction nozzle 110 holding the EC 44 to be mounted next, and a rotation phase corresponding

to the second relative rotation position, indicated in two-dot chain line in Fig. 7, relative to the one nozzle 110. That is, the butting member 272 is rotated to a rotation phase where the projecting portion 306 thereof is positioned at the second relative rotation position relative to the one nozzle 110, so that the nozzle-butting portion 308 is aligned with the one nozzle 110 and the second valve-butting ~~portion 308~~ portion 312 is aligned with the second valve spool 178.

Please replace the paragraph beginning on page 85, line 24, with the following rewritten paragraph:

Since the distance between the second valve-butting portion 312 and the second spool 178 is greater than that between the nozzle-butting portion 308 and one suction nozzle 110, the second valve-butting portion 312 does not butt on the second spool 178, immediately after the commencement of the downward movement of the butting member 272. However, as the butting member 272 moves the one nozzle 110 toward the board supporting device 24, the second valve-butting portion 312 engages, by butting, the butting portion 196 of the second spool 178, and thereby depresses the second spool 178 to its lower-dead position against the friction force produced between the spool 178 and the friction ring 192. At a terminal end of the downward movement of the butting member 272, the direction-switch valve 174 cuts off the supplying of the negative pressure to the one nozzle 110, and is switched to the state in which the valve 174 permits ~~the the~~ the supplying of the positive pressure to the one nozzle 110. The first spool 176 had been moved downward to its lower-dead position when this nozzle 110 was used to suck and hold an EC 44, and has been kept at its lower-dead position, so that the first valve-butting portion 310 cannot contact the first spool 176. Since the nozzle 110 is lowered to its lower-dead position, the nozzle 110 is communicated with the positive-pressure passage 202 via the annular passage 230, so that immediately before the EC 44

contacts the PWB 20, the nozzle 110 is cut off the supplying of the negative pressure and is supplied with the positive pressure, and accordingly can positively release the EC 44.

Please replace the paragraph beginning on page 93, line 12, with the following rewritten paragraph:

The twelve switch valve ~~devices 420~~ devices 402 are provided for the twelve suction nozzles 424, respectively. Each of the switch valve ~~devices 420~~ devices 402 includes the same second open/close valve 172 as that of each of the switch valve devices 152 shown in Fig. 5. The rotatable body 412 has, radially inwardly of the first circle along which the suction nozzles 424 are located, twelve first spool holes 440 which are formed therethrough in a direction parallel to the axis line of the rotatable body 412 and which are located along a second circle whose center is located on the axis line of the rotatable body 412 and, in particular in the present invention, are equiangularly spaced from one another about the axis line. In addition, the rotatable body 412 has, radially inwardly of the first circle, twelve second spool holes 442 which are formed therethrough in a direction parallel to the axis line of the rotatable body 412 and which are located along a third circle whose center is located on the axis line of the rotatable body 412 and whose radius is greater than that of the second circle and, in particular in the present invention, are equiangularly spaced from one another. The rotatable body 412 has the first and second spool holes 440, 442 such that the first spool holes 440 are alternate with the second spool holes 442 in the circumferential direction of the rotatable body 412.

Please replace the paragraph beginning on page 95, line 3, with the following rewritten paragraph:

The rotatable body 412 has twelve negative- pressure passages 466 and twelve positive-pressure passages 468. As shown in Fig. 15, the second member 418 has twelve negative-pressure-passage forming grooves 470 opening in an upper surface thereof. In the

present embodiment, each of the negative-pressure-passage forming grooves 470 has a quadrangular (e.g., rectangular) cross section, and the first ~~member 146~~ member 416 closes respective upper openings of the negative-pressure-passage forming grooves 470 to define the negative-pressure passages 466. The width of each of the passages 466 is smaller than a diameter of each of the first and second spools 408, 410, and the each passage 466 is so formed as to intersect perpendicularly respective axis lines of the corresponding first and second spool holes 440, 442. Each of the negative-pressure passages 466 perpendicularly intersects the respective axis lines of the corresponding first and second spool holes 440, 442, and communicates with the corresponding first open/close valve 404 and the corresponding direction-switch valve 406 in series, and opens on one hand in a negative-pressure supply passage 160 of an air-passage forming member 150, and on the other hand in the corresponding hold hole 422.

Please replace the paragraph beginning on page 95, line 25, with the following rewritten paragraph:

As shown in Fig. 16, the third member 420 has twelve positive-pressure-passage forming grooves 472 opening in an upper surface thereof. In the present embodiment, each of the ~~negative-pressure-passage~~ positive-pressure-passage forming grooves 472 has a quadrangular (e.g., rectangular) cross section, and the second ~~member 148~~ member 418 closes respective upper openings of the positive-pressure-passage forming grooves 472 to define the ~~negative-pressure~~ positive-pressure passages 468. The width of each of the positive-pressure passages 468 is smaller than the diameter of each of the first and second spools 408, 410, and the each passage 468 is, as shown in Figs. 13 and 16, so formed as to intersect perpendicularly the axis line of the corresponding second spool hole 442 and communicate with the corresponding direction-switch valve 406 and additionally communicate with the corresponding first spool hole 440 such that the each passage 468 is partly interfered with by

the corresponding first spool 408. Each of the positive-pressure passages 468 opens on one hand in a positive-pressure supply passage 158 of the air-passage forming member 150, and on the other hand in the corresponding hold hole 422. As shown in Figs. 15 and 16, the rotatable body 412 has a number of holes which are formed for decreasing the weight of the body 412.

Please replace the paragraph beginning on page 100, line 9, with the following rewritten paragraph:

The downward movement of each suction nozzle 424 and the switching of the first open/close valve 404 and the direction-switch valve 406 are effected when the butting member 480 is moved downward by a butting-member moving device 296, like in the first embodiment. In addition, the butting member 480 is rotated by a butting-member rotating device 280 to an arbitrary rotation phase about the axis line of the rotatable body 412. The butting member 480 includes a projecting portion 481 projecting radially outward from a rotatable shaft 268. The projecting portion 481 includes a nozzle-butting portion 482 which projects downward from a base portion of the projecting portion 481 that is fitted on the rotatable shaft 268. In addition, the projecting portion 481 includes two valve-butting portions 484, 486 which are adjacent to the nozzle-butting portion 482, and between the same portion 482 and the shaft 268. The second valve-butting portion 486 is defined by a portion of the butting ~~portion~~ member 480 in which two recesses 488 (Figs. 13 and 14; the air-passage forming member 150 is not shown in Fig. 14) are formed. When the butting member 480 is rotated, the projecting portion 481 is revolved to a first relative rotation position where the first valve-butting portion 484 is opposed to the first spool 408 of each of the switch valve ~~devices 410~~ devices 402 associated with the suction nozzles 424 which suck and hold respective electric components ("ECs") 44, and a second relative rotation position where the second valve-butting portion 486 is opposed to the second spool 410 of the each switch valve

device 402. At each of the first and second relative rotation positions of the each switch valve device, the nozzle-butting portion 482 is positioned at a position where the portion 482 is opposed to a corresponding one of the suction nozzles 424.

Please replace the paragraph beginning on page 101, line 14, with the following rewritten paragraph:

When the ECs 44 are sucked and held by the suction nozzles 424, the projecting portion 481 of the butting ~~portion~~ member 480 is positioned at the first relative rotation position, indicated at solid line in Fig. 14, where the first valve-butting portion 484 is opposed to the first spool 408, the second valve-butting portion 486 is not aligned with the second spool 410, and one of the two recesses 488 is aligned with the second spool 410. When the butting member 480 is moved downward, the nozzle-butting portion 482 moves the corresponding suction nozzle 424 downward against the biasing force of the spring 432, and simultaneously the first valve- butting portion 484 moves the first spool 408 downward against the friction force produced between the spool 408 and the inner surface of the spool hole 440, so that the first open/close valve 404 is switched to the state in which the valve 404 permits the negative pressure to be supplied to the one suction nozzle 424. Since the second valve-butting portion 486 is not aligned with the second spool 410 and the one recess 488 prevents the interference of the projecting portion 481 and the second spool 410, the direction-switch valve 406 is not switched. In addition, the interference of the second spool 410 of the switch valve device associate with another suction nozzle 424 adjacent to the one suction nozzle 424, with the projecting portion 481 of the butting member 480 is prevented by the other recess 488 of the butting member 480.

Please replace the paragraph beginning on page 102, line 13, with the following rewritten paragraph:

When the ECs 44 are mounted on the PWB 20, the projecting portion 481 of the butting ~~portion~~ member 480 is positioned at the second relative rotation position, indicated at two-dot chain line in Fig. 14, where the second valve-butting portion 486 is opposed to the second spool 410. When the butting member 480 is moved downward, the nozzle-butting portion 482 moves the corresponding suction nozzle 424 downward against the biasing force of the spring 432, and simultaneously the second valve-butting portion 486 moves the second spool 410 downward against the friction force produced between the spool 410 and the inner surface of the spool hole 442, so that the direction-switch ~~valve 4064~~ valve 406 is switched to the state in which the valve 404 stops the supplying of the negative pressure to the one suction nozzle 424 and permits the positive pressure to be supplied to the one suction nozzle 424.

Please replace the Abstract with the attached amended Abstract.